



The Impact of Deployment on Children

A Review of the Quantitative and Qualitative Literature



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EXECUTIVE SUMMARY

The recent conflicts in Afghanistan (Operation Enduring Freedom; OEF) and Iraq (Operation Iraqi Freedom; OIF) have been unprecedented in terms of United States military deployment length, repetition, and frequency, and have potentially serious consequences for military Service members and their families. Previous research has shown that some children experienced heightened anxiety, sleep disturbances, and/or poor academic performance during parental deployment (e.g., Hillenbrand, 1976; Jensen, Martin, & Watanabe, 1996; Levai, 1995). Given the unique experiences of children and families in the current conflicts, we must closely consider the findings of the research that has been conducted during OEF and OIF. To accomplish this goal, we evaluated peer-reviewed quantitative and qualitative studies and literature reviews that focused on the impact of parental deployment on children during OEF and OIF. We reviewed 28 articles, as they related to six outcome variables: internalizing behavior problems, externalizing behavior problems, academic adjustment, family problems, peer problems, and physical health problems. Fourteen of these articles were quantitative studies, eight were literature reviews, five were qualitative studies and one utilized mixed methods (i.e. included both qualitative and quantitative analyses). All articles were peer reviewed and the literature reviews contained only articles that were peer reviewed. We also considered the factors that could buffer or exacerbate the association between parental deployment and child outcomes (e.g., child age, gender, parent rank). Although this executive summary is a synopsis of the report, it does not detail the complexity of results included in the full report.



Outcomes Related to Military Deployment

Internalizing Behavior Problems

In general, research indicates that Army children between the ages of six and seventeen years experience sadness, anxiety, and other internalizing behavior problems (i.e., emotional problems) during parental deployment (Flake, Davis, Johnson, & Middleton, 2009; Houston et al., 2009). These emotional problems do not seem to be unique to children with deployed parents, as studies show that military children of this age across the Army, Navy, Air Force, and Marines, are experiencing increased emotional problems, compared to civilian children (Chandra et al., 2010; Lester et al., 2010; Morris & Age, 2009). For younger children, ages three to five years, evidence reveals that those with a deployed parent exhibited more emotional problems than their military peers with a nondeployed parent, although this study only included children of Marines (Chartrand, Frank, White, & Shope, 2008).

In terms of buffering or exacerbating factors, it is clear from the literature that parent well-being is a critical issue for children's emotional problems, with a number of studies showing that parental distress predicted more emotional problems for children, regardless of branch (Chandra, Lara-Cinisomo, et al., 2010; Finkel, Kelley, & Ashby, 2003; Flake, et al., 2009; Lester, et al., 2010). On the other hand however, the evidence is mixed regarding the effects of gender, ethnicity, length of parental deployment, and parent rank on the impact of parental deployment on children's emotional problems, with different studies demonstrating different results.



Externalizing Behavior Problems

In studies sampling Army, Navy, and Marine children, findings indicate that children with deployed parents do not exhibit more externalizing behavior problems (e.g., acting out, aggressive behaviors) than national samples or children with nondeployed parents (Flake, et al., 2009; Lester, et al., 2010; Morris & Age, 2009). The impact of parental deployment on behavior problems, however, may be related to children's ages. Although studies on older children (ages six years and older) produce mixed findings (Chandra, Lara-Cinisomo, et al., 2010; Lester, et al., 2010; Mmari, Roche, Sudhinaraset, & Blum, 2009), two studies on younger children (under the age of five years) both found that experiencing a parental deployment was related to increased behavior problems, particularly for children who had already experienced at least one parental deployment (includes Army, Navy, Marine, and Air Force children; Barker & Berry, 2009; Chartrand, et al., 2008). Therefore, it appears that younger children's behavior might be more heavily influenced by parental deployment, especially if they have experienced multiple deployments.

Research has shown that among samples of Army and Marine children, the longer total time a parent is away, the more behavioral problems children exhibited (Lester, et al., 2010). In addition, a number of studies reveal that decreased parent well-being is related to more behavior problems for children during parental deployment (Barker & Berry, 2009; Finkel, et al., 2003; Flake, et al., 2009; Lester, et al., 2010). Therefore, longer deployments and compromised parent well-being are critical factors that need to be examined when considering the impact of parental deployment on children's behavior problems.



Academic Adjustment

School staff working with Army children report that, while some children cope well with deployment, others experience academic difficulties during parental deployments (Chandra, Martin, Hawkins, & Richardson, 2010). One study, using the standardized test scores of Army children, found that parental deployment during the school year resulted in a .42% decrease in test scores, and the longer parents were deployed, the greater the negative impact on academic achievement (Engel, Gallagher, & Lyle, 2010). After parents returned, academic performance slowly increased and four years after reunion, children no longer had scores significantly different from those not experiencing a parental deployment.

The impact of parental deployment on academic adjustment may be particularly acute for older children and adolescents; being older was associated with more academic problems during both deployment and reunion for children of Army, Navy, Air Force, and Marine Service members (Chandra, Lara-Cinisomo, et al., 2010). One possible explanation is that as children get older, they take on more household responsibilities during a parent's deployment, decreasing the amount of time they spend on academic tasks. Another explanation is that children of deployed parents are concerned and anxious about their parent and not able to appropriately concentrate on their school work.

Another important factor in child academic adjustment is the well-being of the parent who is not deployed (referred to here as the "caregiver"). Decreased caregiver well-being was associated with less academic engagement for children (Chandra, Lara-Cinisomo, et al., 2010).



Children with a parent who is struggling may “step up” and take responsibility for additional household tasks, thereby leaving these children less time and energy to focus on academics.

Family Problems

Two categories of family problems were examined: child maltreatment (physical, emotional, sexual abuse, neglect) and other family problems (e.g., child interactions with families, parent well-being).

Overall, child maltreatment is lower in military families, compared with civilian families (includes Army, Navy, Marine, and Air Force families; Martin et al., 2007; Rentz et al., 2007; Rentz et al., 2008). Research on deployment, however, suggests that rates of child maltreatment, in general, and child neglect in particular, increase during parental deployment (Gibbs, Martin, Kupper, & Johnson, 2007; McCarroll, Fan, Newby, & Ursano, 2008; Rentz, et al., 2007). There is mixed evidence about whether a child’s age increases the likelihood of maltreatment during parental deployment. Whereas younger children and older adolescents were at greater risk of maltreatment when parents were not deployed, children between the ages of two and twelve were at heightened risk during parental deployment (Gibbs, et al., 2007; McCarroll, et al., 2008; Rentz, et al., 2007; Rentz, et al., 2008).

When considering family problems other than child maltreatment, there is evidence that children in military families (i.e., Army, Navy, Air Force, and Marines) had more difficulty interacting with their families than a national sample (Chandra, Lara-Cinisomo, et al., 2010). Moreover, deployment and reunion may be very difficult for families as they have to readjust family roles, renegotiate responsibilities and household management, and possibly deal with the



physical or mental impairment of a returning Service member (Barker & Berry, 2009; Drummet, Coleman, & Cable, 2003; Houston, et al., 2009; Huebner, Mancini, Wilcox, Grass, & Grass, 2007; McFarlane, 2009; Mmari, et al., 2009; Sheppard, 2010). Empirical evidence with Army families also suggests that child bonding issues, such as difficulty connecting with a parent, are undermined by longer parental deployments, experiencing multiple deployments, and increased stress experienced by parents (Barker & Berry, 2009).

A critical consideration in family functioning is the well-being of the caregiving parent; poorer caregiver well-being was associated with more difficulty in family interactions among military families (includes Army, Navy, Marine, and Air Force families; Barker & Berry, 2009; Chandra, Lara-Cinisomo, et al., 2010; Flake, et al., 2009; Morris & Age, 2009). Despite the challenges they face when a spouse deploys, many Navy caregivers appear to be resilient during deployment, and continue to provide their children the support they may need (Morris & Age, 2009). The resiliency of Navy caregivers may be linked to the regular schedule deployment cycle of Navy Service members during peace time.

Peer Problems

Research including Army, Navy, Air Force, and Marine children indicates that deployment status is not associated with social functioning (Chandra, Lara-Cinisomo, et al., 2010); however, additional research is needed before clear conclusions can be drawn regarding differences between children with deployed and nondeployed parents in terms of social functioning. In interviews, some adolescents report that friends are a meaningful source of support while others report that friends do not or cannot understand what they are going through



(Mmari, et al., 2009). Children with a deployed parent reported being more comfortable discussing problems they are having with other military children rather than civilian children or school counselors (Mmari, et al., 2009). Additional research is needed to add to this study and to help draw clear conclusions regarding the effect of deployment on child social functioning.

A child's positive feelings toward his/her caregiver and family cohesion may act as buffers against poor peer relationships during parental deployment (Finkel, et al., 2003). Similarly, poor caregiver well-being appears to be associated with more peer difficulties among older children (Chandra, Lara-Cinisomo, et al., 2010). Thus, as with other child outcomes, parent well-being is a critical factor in the link between parental deployment and experienced peer problems.

Physical Health Problems

Only one study specifically examined adolescent physical health. In this study, Davis and Treiber (2007) found that Army adolescents (with both deployed and nondeployed parents) had higher heart rates than civilian children, yet no differences were found in blood pressure. Adolescents with a deployed parent, however, had higher Body Mass Indices (BMIs) than both adolescents with a nondeployed parent and civilian adolescents. The increased BMI of youth with deployed parents may be related to poorer diet or less exercise during parental deployment. For example, a caregiver may have less time to transport an adolescent to sports practices or events during parental deployment.



Limitations

The empirical studies included in this report have a number of limitations, which should be considered when reviewing their findings, including:

- The lack of research both branch-specific and inclusive of all branches limits our ability to draw conclusions about the impact of parental deployment on children either within one branch or across branches.
- Few of the reviewed studies included a pre-deployment assessment or examine children's scores over time; either of these strategies would clarify the associations between variables, and help rule out alternative explanations for findings.
- The number of published studies examining the impact of parental deployment on child outcomes is quite small, which limits our ability to fully understand the impact of parental deployment on children.

Conclusions

The current literature indicates that parental deployment is directly associated with more academic problems, a higher likelihood of child maltreatment, and increased family functioning problems. For internalizing and externalizing behavior problems, however, other variables influenced the links between parental deployment and child outcomes. For instance, although parental deployment was not directly related to children's internalizing behavior problems, a *lengthier* deployment did predict more problems. In addition, deployment impacted children's externalizing behavior problems differently, depending on the child's age.



Many factors such as child age, ethnicity, and length of parental deployments, have been shown to either buffer or exacerbate the association between parental deployment and child outcomes. One such factor that was consistently associated with child outcomes was parent well-being. Research indicates that compromised parent well-being exacerbates the negative impacts of parental deployment on children. A second consistent factor that may moderate the relation between deployment stress and child outcomes is the age of the child. For example, older children are more likely to experience academic problems than younger children. The research reviewed for the full report suggests that the impact of deployment is age-specific, and the impact of age differs depending on the type of outcome analyzed.

Notably, these conclusions are based on a small body of research and represent the current yet limited state of this literature. Nevertheless, it is evident that deployment imposes stress on both children and caregivers. Furthermore, both deployment and reintegration disrupt family roles and functioning.



Report Purpose



The National Defense Authorization Act 2010 Section 571 requires the Department of Defense (DoD) to conduct a comprehensive assessment of the impact of parental deployment on children, and submit a report to Congress. The current report was completed at the request of staff from the Office of the Deputy Under Secretary of Defense Military Community and Family Policy to support the NDAA 2010 Section 571 mandate. This report serves to provide information to provision the 571 mandate by presenting the existing research literature on the impact of parental deployment, and multiple deployments, on children, as well as the impact that deployment of a military parent (or parents) has on risk factors associated with child outcomes. Consistent with the requirements of the law, special attention was paid to the age group of children (i.e., pre-school age children, elementary school age children, adolescents) and different family structures (i.e. single parent family, step family, dual military families). Throughout this report, we use the terms “deployed parent,” to refer to the parent who is currently deployed, “nondeployed parent” to refer to a military parent who is not currently deployed, and “caregiving parent” or “caregiver” to refer to the spouse of the deployed/nondeployed parent.

This report is comprised of three sections. The first section, *Introduction to the Current Review*, provides an introduction to the review of the literature on the impact of parental deployment on children, provides a context for the literature review, and specifies our literature review strategy. Section two, *Outcomes Related to Military Deployment*, presents the findings of the literature review. This section represents the current state of knowledge regarding the impact of parental deployment specific to Operation Enduring Freedom (OEF) and Operation Iraqi



Freedom (OIF) as well as the limitations of this body of research. Based on the findings from section two, we outline our *Conclusions* in section three.



Section I.

Introduction to the Current Review



Introduction

As of September, 2009, 1.8 million United States military Service members have been deployed to Iraq or Afghanistan, with many of these men and women having been deployed multiple times. In fact, Operation Enduring Freedom (OEF) in Afghanistan and Operation Iraqi Freedom (OIF) in Iraq have included not only a higher number of deployments, but also longer and more frequent (i.e., at a faster rate) deployments than any past conflicts. The increased deployment tempo of the current conflicts can potentially have serious consequences for military Service members. During deployment, Service members may face extreme physical and psychological stress, and recent research indicates that almost one-third of Service members returning from Iraq or Afghanistan experience Post Traumatic Stress Disorder (PTSD), depression, or traumatic brain injury (Hoge, Auchterlonie, & Milliken, 2006; Hoge et al., 2004; Hosek, Kavanagh, & Miller, 2006; Tanielian & Jaycox, 2008). In addition, as tours lengthen and multiple deployments to combat zones increase, the families of Service members are affected on many levels. Specifically, children and adolescents may be especially vulnerable to feelings of loss (Huebner, et al., 2007), anxiety and stress (Chandra, Martin, et al., 2010), and uncertainty regarding new family roles and the safety and time of return of the deployed parent (Houston, et al., 2009).

For the first time in history, the number of military dependents (i.e., spouses and children) outnumbers military Service members (Chartrand & Siegel, 2007). Nearly half of military Service members have children, and current military children have experienced the



longest, most frequent, and most cumulative number of parental deployments in U.S. history. Thus, the impact of deployment on families, and especially children, is a critical concern.

Research on previous conflicts has shown that some children experienced heightened anxiety, sleep disturbances, or poor academic performance during parental deployment (Hillenbrand, 1976; Jensen, et al., 1996; Kelley, 1994; Levai, 1995; Yeatman, 1981). However, given the unique experiences of children in the current conflicts (i.e., increased deployment tempo) we must closely consider research that has been conducted since the beginning of the current conflicts. Although researchers are beginning to focus more attention on the impact of deployment and unique tempo factors on children, there is still very limited research examining direct outcomes associated with parental deployment. Furthermore, very few studies have examined factors that may buffer or exacerbate the impact of parental deployment on children (i.e., moderating factors), such as child age or gender, or Service members' component, or branch. The limited research in this area is due in part to a lack of scholars who conduct research in this area. Creation of a multi-disciplinary cohort of researchers would increase the number of scholars and build research and prevention and intervention strategies to promote economic, psychological, social, and emotional health of military families.

The Current Review

To fully understand the impact of parental deployment on children, this report evaluates quantitative studies (i.e., those using numeric data and/or statistical analyses), literature reviews, and the rich repository of qualitative research (non-numerical data collected using interviews, observations, focus groups, and open-ended questions). All articles were peer reviewed and the



literature reviews contained only articles that were peer reviewed. The literature reviewed in this report focuses on the outcomes of parental deployment for military children during and after OEF and OIF. To provide a comprehensive review and synthesis of the academic literature on the impact of parental deployment and multiple deployments on children and risk factors, we followed three steps. First, we conducted a broad search for literature specific to the impact of deployment on children during OEF and OIF. Second, we coded the study, participant, and military characteristics of each article. Third, we evaluated the methodologies, findings, and limitations of the studies as they related to six primary outcome variables: internalizing behavior problems, externalizing behavior problems, academic adjustment, family problems, peer problems, and physical health problems. We also considered the factors that could buffer or exacerbate the association between parental deployment and child outcomes (e.g., child age, gender, Service member rank, family composition); we refer to these as moderating factors. In total, 28 articles were identified that focused, in whole or in part, on the impact of deployment on children. Fourteen of these articles were quantitative studies, eight were literature reviews, five were qualitative studies and one utilized mixed methods (i.e. included both quantitative and qualitative analyses). All articles were peer reviewed and the literature reviews contained only articles that were peer reviewed

This report details the method, results, and implications of the current quantitative (and literature reviews), qualitative and mixed methods research on the impact of parental deployment on children specific to OEF and OIF. Appendix A provides detailed information about our methodology for selection and inclusion of studies in this report, how studies were coded, and



the overall study, participant, and military characteristics of the research reviewed. In addition, we examined the current funding opportunities for research related to the impact of deployment on children. Information on current funding sources provides an initial understanding of the types of information that might be garnered from currently funded or soon-to-be funded research about parental deployment and its impact on children. Details about current funding opportunities can be found in Appendix B. Lastly, there were three studies that did not meet our criteria for inclusion in this report (see Appendix A) but provided important information and insight to the impact of parental deployment on children. These studies are briefly reviewed in Appendix C.

The information presented in this report is organized by outcome variable (i.e. internalizing behavior problems, externalizing behavior problems, academic adjustment, family problems, peer problems, and physical health). For each outcome variable, we present the study, participant, and military characteristics of the articles (or analyses, in the case of the mixed methods article) that have examined that variable. Next, we discuss the findings (i.e. how parental deployment is associated with the outcome) of the quantitative literature as well as possible moderating factors. Information on moderating factors is only included if at least one study has examined that moderator. It is important to note that despite our focus on family composition (e.g. single parent family, stepfamily, dual military family), only four studies specified the percentage of single parent families in their samples and no studies reported the percentage of dual military families in their samples. In addition, none of the articles analyzed family composition as a potentially influential variable in children's experiences during (or after)



parental deployment. Following the discussion of the quantitative findings, we discuss the findings from the qualitative literature. In addition, we present the limitations of the articles investigating that outcome variable. After detailing the findings and limitations relevant to each of the outcome variables, we present a discussion of the common themes, as well as our overall conclusions and three recommendations based on the reviewed literature. Because most of the literature reviewed focused on multiple outcome variables, a given article may appear in more than one section.



Section II.

Outcomes Related to Military Deployment



Internalizing Behavior Problems

There were 13 articles (seven quantitative studies, two literature reviews, three qualitative studies, and the qualitative analyses of the mixed methods study) focusing on child internalizing behavior problems. The term “internalizing” was inclusive of several different problems including depression, anxiety, child stress, emotional problems/symptoms, and a broad collection of internalizing symptoms as defined by the Child Behavior Checklist (Achenbach, 1991; Achenbach & Rescorla, 2000); a well-established standard measure in the field of child development and psychology that measures, for example, anxiety, withdrawal, and emotional symptoms); three quantitative studies did not specify how internalizing problems were measured.

Of the quantitative studies, four studies sampled only one group (i.e., no comparison groups), although three of these compared their samples to standardized norms. Two studies compared the internalizing behavior problems of children with deployed parents to those with nondeployed military parents. One study compared children with deployed parents to both children with nondeployed parents and civilian children.

All of the studies investigating internalizing behavior problems recruited participants either at an installation, at a school near an installation, or through an organization that serves military families (i.e., National Military Family Association). Sample sizes for the quantitative studies ranged from 65 to 1,507, and 24 to 107 for the qualitative studies. The studies most commonly employed reports from the caregiver, although child, deployed parent, and teacher/school staff reports were also used.



Quantitative Findings

In general, it appears that children of both Army and Marine Service members are experiencing internalizing behavior problems at high levels during parental deployment. In a sample of children with deployed Army parents, 39% were at high risk for internalizing symptoms (Flake, et al., 2009). Flake and colleagues (2009) also found that when examining psychosocial functioning (i.e., physical, emotional, and cognitive difficulties), children with deployed parents had more difficulties than a national sample. Along with this finding, a study of Army and Marine children showed that 25% of children with a deployed parent, and 32% of children with a recently returned parent demonstrated clinically relevant anxiety symptoms (Lester, et al., 2010). In contrast, when specifically examining depression, this same study showed that children with either a deployed or recently returned parent had depression levels comparable to community and clinical norms (Lester, et al., 2010). Thus, it might be that general internalizing behavior problems (e.g. psychosocial functioning) and anxiety are increased for children with deployed parents, whereas depression is not.

These high rates in general internalizing problems and anxiety may not be directly related to parental deployment, but rather, may be something experienced by all military children. Research utilizing a sample of Army, Navy, Air Force, and Marine children found that regardless of parental deployment status, military children appeared to have higher rates of emotional problems than normed samples, although statistical comparisons were not conducted (Chandra, Lara-Cinisomo, et al., 2010; Morris & Age, 2009). In fact, another study of only Navy children showed no differences between children with deployed or nondeployed parents in emotional



problems (Morris & Age, 2009). Likewise, although military children (specifically Army and Marine) with a currently deployed parent and those with a recently returned parent were not significantly different from each other, both exhibited higher levels of anxiety than community norms (Lester, et al., 2010). It is important to note, however, that all three of these studies were conducted with children ages six to seventeen years. Research examining young children may find a different pattern of results.

In contrast to anxiety and generalized internalizing problems, stress may be a concern that is more relevant to older children or adolescents. A literature review focused on stress in military families suggests that military families experience stressors common to all families (e.g., child care, parenting concerns), as well as some that are unique (e.g., frequent separation, parental deployment), and children in military families may have difficulty coping with these challenges (Drummet, et al., 2003). Available research on coping with parental deployment has only examined adolescents, but suggests that deployment is a stressful time for youth. In one study, Army high school students with deployed parents reported higher stress symptoms and fewer psychological resources than their peers with nondeployed Army parents or even children of civilian parents (Davis & Treiber, 2007). Additional research is needed however to draw clear conclusions about the association between parental deployment status and adolescent stress, especially for families associated with other military branches.

Moderating factor: Length of deployment

One potential moderator of the impact of deployment status on children's internalizing behavior problems is the length of parental deployment. In one study of Army and Marine



families, cumulative length of parental deployments predicted increased child depression (Lester, et al., 2010). Using a measure of general well-being, however, Flake and colleagues (2009) found no association between psychosocial difficulties (defined as physical, emotional, and cognitive problems) and length of deployment, although this study was specific to Army families only. These contradictory findings might be related to the assessment. As noted previously, Flake used a broad measure of functioning, whereas Lester and colleagues specifically examined internalizing behavior problems. In addition, although published in 2009, Flake and colleagues did not specify when their data were collected; thus, it is possible that the different findings may be due to differences in the timing of data collections.

Moderating factor: Gender

There is inconsistent evidence regarding the gender of the child and internalizing behavior problems. In one study of Navy children, girls reported more emotional problems than boys (Morris & Age, 2009). Yet, in a second study (consisting of Army and Marine children), there were no differences in internalizing symptoms based on child gender (Lester et al., 2010). Similar to Lester and colleague's findings, a study of Army children using a broad measure of functioning that included physical, emotional, and cognitive difficulties, found no differences based on gender (Flake et al., 2009). These conflicting findings might be attributed to the measures of internalizing behavior problems used. The first study used the Strengths and Difficulties Questionnaire, the second study used the Child Behavior Checklist (Achenbach, 1991; Achenbach & Rescorla, 2000), and the third used a global measure of difficulties. Still,



without additional research that examines the potential role of gender in the deployment experiences of children and adolescents, we cannot fully explain these conflicting results.

Moderating factor: Ethnicity

Two studies examined ethnic differences in child internalizing behavior problems. One study of Army children showed no differences between White and non-White children (ages five to twelve years) in terms of their psychosocial functioning (Flake, et al., 2009). A study with older Army high school students, however, found that the increased stress for adolescents with deployed parents, compared to those with nondeployed or civilian parents, was particularly distinct for White adolescents (Davis & Treiber, 2007). Thus, it may be that ethnic differences are more critical for adolescents than for younger children. It is also possible that whereas ethnicity does not moderate the impact of deployment on psychosocial functioning, ethnicity does play a role in stress or stress management.

Moderating factor: Parent rank

One study that sampled Army, Navy, Air Force and Marine families examined the importance of Service member rank in adolescent internalizing problems during parental deployment (Chandra, Lara-Cinisomo, et al., 2010). In this study, children of lower-ranking enlisted Service members (E1-E4) had more emotional problems than children of officers. Differences, however, were only evident in caregiver reports, not child self-reports. Therefore, it might be that spouses of lower-ranking Service members view their children's behavior as more problematic.



Moderating factor: Parent well-being

Parent mental health or well-being may play a role in children's internalizing behavior problems during parental deployment. Regardless of military branch (i.e., Army, Navy, Air Force, or Marine) parental distress, by either parent, predicted child internalizing behavior problems, such that as parental distress increased, so did children's emotional problems (Chandra, Lara-Cinisomo, et al., 2010; Finkel, et al., 2003; Flake, et al., 2009; Lester, et al., 2010). Thus, the current, yet limited, studies on military child internalizing behavior problems indicate that parental well-being is critical in buffering the impact of parental deployment on children and adolescents.

Moderating factor: Community capacity

While deployment has been noted to have negative impacts on military families, one literature review suggests that community support systems are available to buffer these problems (Huebner, Mancini, Bowen, & Orthner, 2009). The authors argue for a community-based approach to support systems that emphasize shared responsibility and collective competence between community members. A quantitative study of Army children supports this conclusion, showing that higher community support was associated with fewer physical, emotional, and cognitive difficulties for children (Flake et al., 2009).

Qualitative Findings

The qualitative literature that has examined the impact of deployment on child internalizing behavior problems suggests that there may be both short- and long-term effects of parental deployment on children. Short-term effects tend to be less severe and include initial



loneliness and sadness about the parent's departure (Houston, et al., 2009). For example, one adolescent reported "when my dad left, even before he left in the plane, I was crying as a little kid." (Mmari, et al., 2009). Prolonged sadness and anxiety about a parent's departure may produce emotional strain on children and adolescents. For example, in one focus group study approximately 32% of adolescents (age 12-17 years) made statements indicative of depressive symptoms, as one adolescent stated "I can't go to sleep. Because they're up and doing something you can't like, you're thinking about what they are doing" (Huebner, et al., 2007). Such depressive symptoms may be the result of children and adolescent's constant worry about the well-being of the deployed parent. The risk of injury or death of the deployed parent is a salient feature of deployment for children and adolescents. For example, in a study of children and adolescents (age 6 to 18 years) of deployed National Guard troops 63% of youth indicated that their deployed parent getting hurt, dying, or not coming home was their biggest concern about parental deployment (Houston, et al., 2009).

Youth's ages may also affect their perception and reaction to deployment. For example, one qualitative study indicated that younger children were often confused or did not understand the meaning of deployment. One caregiver reported that her 32 month old daughter would often ask "Where's Daddy? Does he live here? Is he coming home?" (Barker & Berry, 2009). In another study, one six year old girl reported "My Daddy sometimes has to kill people and run away from their bullets" (Houston, et al., 2009).



Limitations

- Because of the paucity of branch-specific research and research inclusive of all branches, clear conclusions cannot be made regarding the differences or similarities of the impact of parental deployment on children across Service branches. In addition, the results presented here may not generalize to all Service branches
- Selected or participating families may differ from non-participating families in ways that are not measured but affect the outcome variables. For example, parents who choose to participate in a study may have children who are functioning better or worse than those parents who choose not to participate.
- In studies that compared children with deployed parents to other children (either children with nondeployed military parents or civilian parents) matching techniques were not used to ensure group similarity. Without matching groups on important demographic variables, we cannot be certain that the groups do not have critical pre-existing differences that influence the results
- No studies include a pre-deployment assessment. Without a pre-test, there is no clear evidence of the direction of associations observed.
- No studies compared children's scores over time. Longitudinal data would allow researchers to understand the direction of associations between parental deployment and child outcomes, and help rule out alternative explanations for findings.
- This area of research is quite limited in the number of studies available to review.



Externalizing Behavior Problems

In the review of the literature, there were 10 articles (six quantitative and three qualitative studies, and both quantitative and qualitative analyses of the mixed methods study) identified that examined child externalizing problems. Externalizing behavior problems included issues such as aggressive behavior, conduct problems, and hyperactivity. Four of the quantitative studies sampled only one group (i.e., no comparison groups); however, three of these compared their samples to standardized norms. Three quantitative studies compared the externalizing behavior problems of children with deployed parents to those with nondeployed parents (no studies compared children with deployed parents to civilian children). Quantitative studies had sample sizes ranging from 57 to 1,507, qualitative studies had sample sizes ranging from 57 to 107. All participants were recruited either at an installation, at a school near an installation, or through an organization that serves military families (i.e., National Military Family Association). Reports from caregivers were most common, although some studies used child reports, deployed parent reports, and/or teacher reports.

Quantitative Findings

In a study of Army children with a deployed parent Flake and colleagues (2009) found that 29% of children were at high risk for externalizing problems. However, when comparing their sample to standardized norms these authors found that the mean level of externalizing behavior problems among Army children with a deployed parent was not significantly different from standardized norms. In addition, one study of Navy children found no difference in conduct



problems of children with a parent who had been deployed in the past year (or were currently deployed) and children who had not experienced a parental deployment (Morris & Age, 2009).

These initial findings suggest that deployment may have only minimal impact on child externalizing, however it is important that the effect of deployment not be studied in isolation. For example, the impact of parental deployment on behavior problems may be related to children's ages. One study that surveyed Army, Navy, Air Force, and Marine families found that older children exhibited more behavior problems than younger children (Chandra, Lara-Cinisomo, et al., 2010), but a second study specific to Army and Marine families indicated no differences based on age (Lester, et al., 2010). In these studies, however, children were ages six years of age or older. Research on younger children that experienced parental deployment suggests that deployment is related to externalizing behavior problems. In a survey of parents of young Army children (under the age of four years) currently experiencing parental deployment, Barker and Berry (2009) asked caregivers to retrospectively report their children's pre-deployment behavior problems, as well as their children's current behavior problems. Although this strategy was flawed because retrospective reports are not as accurate as, or may be given in comparison to, reports of current behavior, results revealed that children engaged in more problem behaviors during deployment than prior to it. In addition, this increase in behavior problems during parental deployment was larger for children who had already experienced at least one parental deployment. In support of Barker and Berry's (2009) findings, Chartrand, Frank, White, and Shope (2008) found that young Marine children (ages three to five years) with a deployed parent exhibited more externalizing problems than their military peers with a



nondeployed parent, even after controlling for caregiver stress and depressive symptoms. Therefore, it appears that although older children may exhibit more externalizing behavior problems overall, younger children's behavior might be more heavily influenced by parental deployment, especially if this was not their first experience with deployment.

Moderating Factor: Gender, age, and ethnicity

Only one study has examined the child gender, age, and/or ethnicity as possible moderating factors. Using a broad psychosocial functioning measure, Flake and colleagues (2009) found no differences in the functioning of children with a deployed parent by gender, child age, or ethnicity.

Moderating factor: Length of deployment

The limited evidence on the length of parental deployment is mixed. One study of Army children ages five to twelve years found that the length of deployment was not associated with child outcomes (Flake, et al., 2009). A study on younger children (under four years), however, found a positive correlation between the length of a parent's current deployment and children's externalizing behavior problems; children whose parents had been gone longer exhibited more behavior problems (Barker & Berry, 2009). It may be that being younger exacerbates the negative impact of parental deployment in terms of externalizing behavior problems.

In terms of cumulative length of parental deployment, research findings have been more consistent. Barker and Berry (2009) reported that the length of time a parent had been gone was positively correlated with behavior problems exhibited by Army children. Likewise, a study of Army and Marine children found that cumulative length of parental deployments predicted



increased externalizing behavior problems (Lester, et al., 2010). Thus, while longer *current* deployments may be particularly problematic for younger children, a longer total time away may have negative implications for children of any age. Additional evidence is needed to fully understand the association between longer parental deployments and children’s externalizing behavior problems.

Moderating factor: Parent well-being

In addition to length of parental deployment, parent well-being is an important variable to consider in children’s externalizing behavior problems. In a number of studies, parent distress, whether reported by caregivers or Service members, predicted externalizing behavior problems for children (Barker & Berry, 2009; Finkel, et al., 2003; Flake, et al., 2009; Lester, et al., 2010). Along with this finding, children’s negative feelings toward their mothers were associated with more conduct problems (Finkel, et al., 2003). Therefore, unhealthy family functioning may serve to exacerbate the negative effects of parental deployment on children’s externalizing behavior problems.

Qualitative Findings

During deployment, both parents and school personnel perceive an increase in adolescent externalizing behavior problems, particularly among boys (Mmari, et al., 2009). Reporters reasoned that externalizing behavior is the result of difficulty in expressing emotions. For example, one school staff member noted that prior to the Iraq war “...you didn’t even notice that they were military kids. But I think in the past couple of years, we have seen a lot more behavioral problems and a lot more instability—a lot more problems because their parents have



been pulled away from them” (Mmari, et al., 2009). This increase in externalizing behavior problems may be the result of adolescents feeling like they must suppress their emotions. Adolescents may stifle their emotions so that they can act as if that they are okay when in fact they are not (Huebner, et al., 2007). One seemingly common reaction to emotional suppression is lashing out. For example, one adolescent stated “I don’t really deal with it. I try not to...I just kind of hide it and I don’t really deal with it until it gets to the breaking point where I’m just like, ugh! And I can’t take it anymore” (Huebner, et al., 2007). In another study (Lincoln, Swift, & Shorteno-Fraser, 2008) discussed a case wherein a 17 year old boy had a history of anger, aggression, and oppositional behavior. After years of failed therapy the parents decided to place him in a residential treatment facility as the caregiver felt unsafe living with the boy when the father went on deployment. Thus, deployment and the stress associated with deployment may exacerbate already existing behavior problems in children and adolescents.

Parent interviews indicate that young children with a deployed parent also showed increased behavior problems related to attachment issues during deployment and at reunion compared to children whose parents had not experienced a recent deployment. One parent reported that her 42 month old son “...asked for Daddy during the entire deployment – seemed angry with me about it...” (Barker & Berry, 2009, p. 1038). When the deployed parent returns, younger children may have ambivalent feelings toward the deployed parent which might result in externalizing behavior problems. For example one returning father reported about his 29 month old daughter, “The first week [she] wanted nothing to do with me...cried a lot and smacked



me...[she] hated me the first week...[she] didn't want me to leave, but didn't want me to touch her either" (Barker & Berry, 2009).

Limitations

- Because of the paucity of branch-specific research and research inclusive of all branches, clear conclusions cannot be made regarding the differences or similarities of the impact of parental deployment on children across Service branches. In addition, the results presented here may not generalize to all Service branches
- Selected or participating families may differ from non-participating families in ways that are not measured but affect the outcome variables. For example, parents who choose to participate in a study may have children who are functioning better or worse than those parents who choose not to participate.
- In studies that compared children with deployed parents to other children (either children with nondeployed military parents or civilian parents) matching techniques were not used to ensure group similarity. Without matching groups on important demographic variables, we cannot be certain that the groups do not have critical pre-existing differences that influence the results
- No studies include a pre-deployment assessment. Without a pre-test, there is no clear evidence of the direction of associations observed. Although one study asked parents to retrospectively report children's pre-deployment behavior problems, this approach is problematic as parents' memories may be affected by time and/or current experiences



with their child' behavior problems. Conducting a pre-test to assess changes over time is a more methodologically sound approach.

- No studies compared children's scores over time. Longitudinal data would allow researchers to understand the direction of associations between parental deployment and child outcomes, and help rule out alternative explanations for findings.
- This area of research is quite limited in the number of studies available to review.

Academic Adjustment

Five articles focused on children's academic adjustment (three quantitative and two qualitative studies). Two of the quantitative studies described adjustment or associations within one group, with both comparing their samples to standardized norms. One study compared the academic achievement of children with a deployed parent to that of children with a nondeployed parent. One study recruited participants at a military installation, one study recruited participants through an organization that serves military families (i.e., National Military Family Association), and one study used standardized test scores of all students in Department of Defense Education Activity (DoDEA) schools. Sample sizes for the quantitative studies ranged from 101 to over 55,000 and from 98 to 148 for the qualitative studies. Most of the studies used reports from the caregiver, although child reports, school staff reports, and standardized test scores were also used.

Quantitative Findings

Academic problems may arise for children during parental deployment, as increased stress may lead children to be less attentive to their school work. Or, children may spend more



time on household or other family-related tasks and less time on homework. In one sample of Army families with a deployed parent, 14% of children aged five to twelve years experienced academic problems such as dropping grades, decreased interest, and teacher conflict (Flake, et al., 2009).

The most comprehensive of the five studies used the standardized test scores of over 55,000 Army children to compare the achievement of children with a parent who had deployed during the school year to scores of children who did not have a parent deploy during the same timeframe (Engel, et al., 2010). Results indicated that having a parent deployed during the school year resulted in a .42% decrease in test scores at the end of the year. This study also found that the longer parents were deployed, the greater the negative impact on academic achievement (0.11% per month of deployment). Thus, it appears that academic performance decreases as a result of parental deployment, although the effect was relatively small.

According to data from Engel and colleagues (2010), the impact of parental deployment on children's academic achievement can be attenuated over time. The longer a parent had been home prior to the testing date, the better his/her child performed. After parents returned, academic performance slowly increased such that four years after reunion, children no longer had scores significantly different from those not experiencing a parental deployment.

Moderating factor: Age

There was some variation in the impact of deployment on children's academic adjustment based on child age. For example, in one study of Army, Navy, Air Force and Marine adolescents, being older was associated with more academic challenges during both deployment and



reintegration (i.e., when a deployed parent returns home after deployment; Chandra, Lara-Cinisomo, et al., 2010). One possible explanation for this finding is that as children get older, they take on more household responsibilities during a parent's deployment. This added responsibility may decrease the amount of time they spend on academic tasks. In contrast, younger children may not take on as many responsibilities during a parent's absence, and thus may not experience problems with academic adjustment to the same degree. Another explanation is that older children are cognitively more aware of the dangers their deployed parent face compared to younger children. No studies, though, have tested these possibilities.

Moderating factor: Parent well-being

Another important factor in child academic adjustment appears to be the mental health of the caregiver. Poorer caregiver mental health was associated with less academic engagement for children (Chandra, Lara-Cinisomo, et al., 2010). As mentioned previously, it may be that children with a parent who is struggling may “step up” and take responsibility for additional household tasks, leaving them less time to focus on academics. However, no studies have further examined the link between parent well-being and child academic adjustment during parental deployment.

Qualitative Findings

In a study involving focus groups and semi-structured interviews with teachers, counselors, and administrative staff of schools that serve children from Army families, school staff felt that, although some children were coping well with deployment, other children were experiencing difficulties due to uncertainty about deployment length, increased stress at home



(e.g. increased household chores and new financial strain), and the mental health of their caregivers. For example, one school staff member reported “They can’t do their homework because they are too busy doing their chores. I had a little girl a couple of years ago that had to get her siblings up in the morning, give them breakfast, dress her brothers and the sisters, get their backpacks on, and get them ready for school before she could get ready for school...” (Chandra, Martin, et al., 2010, p. 221) Another school staff member noted “Children are little barometers – they pick up on however mom or dad is feeling and they bring that to school. They’ll carry the anger with them to school. Or sadness. If its chaotic at home, there’s a lot more hostility and impulsiveness that comes to school” (Chandra, Martin, et al., 2010). In addition, school staff noted that deployment lead to sadness and anger that disrupted classroom activities. School staff also mentioned that anger and aggression was more common for boys whereas while somatic complaints and depression were more common for girls (Chandra, Martin, et al., 2010).

Despite these findings, school staff also discussed how some children demonstrate exceptional resiliency, particularly after some time had passed and children were able to adapt to their parent’s deployment. One school staff noted “I have seen kids go from totally lost after the first round of deployment to picking themselves up and living day-to-day. It becomes the new ‘normal’” (Chandra, Martin, et al., 2010).

Lastly, having school staff who are familiar with military life and military culture may serve to buffer against the negative experiences that children may go through when a parent deploys. For instance, one parent whose son had a retired military Service member as a teacher



called the teacher a “godsend” because her son, who experienced his father’s deployment to Iraq, was an “emotional wreck” (Mmari, et al., 2009).

Limitations

- Because of the paucity of branch-specific research and research inclusive of all branches, clear conclusions cannot be made regarding the differences or similarities of the impact of parental deployment on children across Service branches. In addition, the results presented here may not generalize to all Service branches
- Selected or participating families may differ from non-participating families in ways that are not measured but affect the outcome variables. For example, parents who choose to participate in a study may have children who are functioning better or worse than those parents who choose not to participate.
- In studies that compared children with deployed parents to other children (either children with nondeployed military parents or civilian parents) matching techniques were not used to ensure group similarity. Without matching groups on important demographic variables, we cannot be certain that the groups do not have critical pre-existing differences that influence the results
- No studies include a pre-deployment assessment. Without a pre-test, there is no clear evidence of the direction of associations observed.
- No studies compared children’s scores over time. Longitudinal data would allow researchers to understand the direction of associations between parental deployment and child outcomes, and help rule out alternative explanations for findings.



- This area of research is quite limited in the number of studies available to review.

Family Problems

In the review of the literature, there were 20 articles (nine quantitative articles, seven literature reviews, three qualitative articles, and both quantitative and qualitative analyses of the mixed methods article) identified that examined family problems. For this review, family problems included family violence, child maltreatment (i.e., physical, emotional, sexual abuse neglect), child interactions with families, and parent well-being (e.g., parent stress). Six quantitative articles and two of the literature reviews focused exclusively on family violence or child maltreatment including neglect, physical abuse, sexual abuse, and emotional abuse. No qualitative articles examined family violence and/or child maltreatment

Of the six quantitative articles focused on family violence and/or child maltreatment, three studies used one sample (i.e., did not make comparisons), although one of these examined rates of maltreatment over time. Two studies compared military families to civilian families, and one study compared Army-affiliated perpetrators of family violence to Army-affiliated non-offenders. Five of the studies used data from national child maltreatment/family violence registries, and one study recruited participants from an Army program that provides support to at-risk families. Given that most of the studies used national registries, the sample sizes were quite large, ranging from 765 to 465,000, with most of the studies including over 50,000 participants.

Twelve articles discussed family problems other than family violence/child maltreatment. Three of these were quantitative articles, five were literature reviews, three were qualitative



studies, and one was the mixed methods article (including both quantitative and qualitative analyses). Of the quantitative articles, two made comparisons to standardized norms, and one made comparisons to military families not experiencing a parental deployment. Quantitative analyses from the mixed methods study examined a group of children experiencing parental deployment and did not make any comparisons. Within the four quantitative analyses, data were collected from military installations, or through an organization serving military families (i.e., National Military Family Association). Sample sizes ranged from 65 to approximately 1,500 for the quantitative studies and 24 to 107 for the qualitative studies.

Quantitative Findings: Family violence and child maltreatment

Military families face a number of challenges that make them vulnerable to high levels of stress, and these stresses may increase during deployment. As such, it is critical to investigate the incidence of child maltreatment and family violence in military families (for reviews, see Chamberlain, Stander, & Merrill, 2003; Rentz et al., 2006). Overall, as evidenced by studies inclusive of Army, Navy, Air Force, and Marine children, child maltreatment is lower for children in military families, irrespective of deployment status, compared with civilian families (Martin, et al., 2007; Rentz, et al., 2007; Rentz, et al., 2008).

Even though child maltreatment tends to be lower in military families overall, deployment may still have an effect on the rate of maltreatment within military families. Studies that examine rates of child maltreatment over time lend evidence to understanding the association between parental deployment and child maltreatment or family violence. Rentz and colleagues (2007) that included Army, Navy, Air Force and Marine children showed the rate of



occurrence of child maltreatment among military families was twice as high in the period after October, 2002 (the one year anniversary of the September 11th attacks), compared with the period prior to that date. Rentz and colleagues (2007) also compared deployment rates and child maltreatment cases over time. Findings indicate that for each one percent increase in the percentage of Service members departing to or returning from deployment, child maltreatment increased by 30%. In comparison, the rate in civilian families was essentially static over this same time period.

Research specific to Army families is consistent with these findings. One study examined overall rates of child maltreatment in the Army from 1990 to 2004. Findings indicate that child maltreatment declined by 33% between 1990 and 2000 mirroring a similar decline in U.S. national data. However, child maltreatment increased by 17% between 2000 and 2004 (McCarroll, et al., 2008). This finding was largely driven by child neglect as rates of neglect among Army families declined by 28% between a high in 1991 to a low in 2000 (McCarroll, et al., 2008). From 2000 to 2004, however, the rate of neglect increased by 40%, whereas U.S. national rates changed little during the same period. Thus, among Army families, rates of neglect were at high or increased levels during two large-scale Army deployments (1991 and 2002-2004; McCarroll, et al., 2008). Together, these findings indicate that the deployment cycle may impose stress on military families that likely increases the rate of child maltreatment.

These findings are confirmed by the only study to assess child maltreatment as families experience deployments. Gibbs and colleagues (2007) examined child neglect, physical abuse, and emotional abuse in Army families with an enlisted Service member deployed during OEF or



OIF, and found that the rate of child maltreatment, in general, increased by 42% during parental deployment. This increase was largely due to increases in child neglect. Rates of child neglect, specifically, were almost twice as high when Service members were deployed, compared to when Service members were not deployed. In contrast, rates of physical and emotional abuse were lower during parental deployment, compared to when Service members were not deployed.

When considering only female caregivers, Gibbs and colleagues (2007) found that rates of child maltreatment increased over 300% during Service member deployment. This increase was driven by changes in both child neglect and physical abuse. The rate of child neglect by female caregivers during deployment was almost four times the rate of neglect when Service members were not deployed. In addition, the rate of physical abuse during parental deployment was nearly twice the rate when Service members were not deployed. Overall, this study indicated that children are at increased risk for maltreatment during parental deployment.

Moderating factor: Age

When examining child maltreatment in military families, without considering parental deployment status, evidence indicates that young military children appear to be at the greatest risk for maltreatment (McCarroll, et al., 2008; Rentz, et al., 2007; Rentz, et al., 2008). There may also be a specific risk for military adolescents, as the rate of child maltreatment in military families with youth ages 16 and 17 years was almost equal to that for civilian families (in contrast to the lower rates in military families with children of other ages; Rentz, et al., 2008). However, when considering parental deployment status, a different pattern emerges. Gibbs and colleagues (2007) found that differences in child maltreatment during parental deployment (i.e.,



higher rates during deployment) were particularly strong for Army children ages two to twelve years. Thus, while younger children and older adolescents might be at greater risk of maltreatment, overall, children between the ages of two and twelve might be at heightened risk during parental deployment.

Moderating factor: Gender

Some conflicting evidence has been found regarding differences between boys and girls in rates of child maltreatment. Rentz and colleagues (2007; 2008) found no differences between boys and girls in rates of maltreatment within military families, whereas McCarroll and colleagues (2008) found that rates of maltreatment varied by gender in Army families, but only when also considering child age. Rates of physical abuse and neglect were generally higher for boys than for girls, until the teenage years, when the pattern reversed. In addition, emotional abuse rates were similar for boys and girls up to age 11 years; then, rates for girls were higher than rates for boys.

These seemingly conflicting findings may be attributed to the difference in how maltreatment is measured. McCarroll and colleagues (2008) examined specific forms of child maltreatment (e.g. abuse and neglect), whereas Rentz, and colleagues (2007; 2008) used a global measure that did not make this finer distinction. In addition, it may be that Rentz and colleagues (2007; 2008) did not find differences between boys and girls because they did not simultaneously consider age. For example, McCarroll's evidence of higher rates of abuse for young boys and teenage girls would not be statistically significant if not accounting for the moderating effect of



age; the rates would average out to being equal and researchers would not be able to detect differences based on gender.

Moderating factor: Ethnicity

There were also differences in child maltreatment based on ethnicity. Across military and civilian families, White families had lower rates of child maltreatment than other racial/ethnic groups (Rentz, et al., 2007). In a second study, Rentz and colleagues (2008) also found that rates of child maltreatment were higher among African American military families, compared to White families or families with other ethnic backgrounds. Compared to all Army soldiers, Army family violence offenders were less likely to be White and more likely to be African American (Martin, et al., 2007).

Moderating factor: Parent rank

Another moderating factor in family violence is parent rank. Among Army soldiers, Army family violence offenders were more likely to be enlisted rather than officers (Martin et al., 2007). In addition, Army family violence offenders were somewhat more likely to be in higher enlisted pay grades, specifically pay grade E4 or higher (Martin, et al., 2007). Thus, it may be that lower rank or being in a higher enlisted pay grade is a risk factor for family violence.

Moderating factor: Parent well-being

Parental mental health, of either deployed parents or caregivers, is associated with child abuse in military families. Specifically, higher levels of parental depression, parental stress, and family conflict all predicted the potential for child abuse by mothers or fathers in Army families (Schaeffer, Alexander, Bethke, & Kretz, 2005). In addition, low family expressiveness was a



unique predictor of child abuse among fathers, whereas high marital dissatisfaction, low social support, and low family cohesion were predictive of the potential for abuse by mothers (Schaeffer, et al., 2005).

Qualitative Findings: Family violence and child maltreatment

There was no qualitative research that examined family violence and/or child maltreatment.

Quantitative Findings: Other family problems

Articles considering family problems other than maltreatment focused on children's interactions in the family, parenting difficulties and stress, and parental support. Two of the literature reviews specifically noted that there is very little known about the impact of parental deployment, war-related injury, and death on family functioning and relationships (Chamberlain, et al., 2003; Chartrand & Siegel, 2007). Still, there is evidence that military families struggle with family problems more than civilian families. In one study of military families inclusive of the Army, Navy, Air Force, and Marines, children of Service members had more difficulty interacting with their families than a normed sample (Chandra, Lara-Cinisomo, et al., 2010). In addition, deployment and reintegration may lead to role ambiguity for family members that, in turn, may result in child anxiety and/or family problems (McFarlane, 2009). Indeed, Drummet and colleagues (2003) theorize that reunion and reintegration can be very difficult for families, due to role and boundary issues, household management, rejection by children, and physical or mental impairment among returning Service members. Similarly, as reviewed by (Sheppard, 2010) deployment and reintegration are major life events that can disrupt global family stability



(e.g. changes in residence and schools) as well as disrupt molecular family stability (e.g. changes in daily routines). These disruptions can create stress in families that undermines functioning. The reintegration process can also be complicated by mental and physical health issues of the Service member such as PTSD. Components of PTSD (e.g., withdrawal, numbing, irritability) may drive many of the adverse changes reported in the families of returning veterans, due to effects on intimacy and family functioning, yet there is little research on this topic (McFarlane, 2009).

Empirical evidence suggests that child attachment issues, such as difficulty forming strong bonds and connectedness with parents, are undermined by lengthy deployment, deployment number, and number of stressors faced by the caregiving parent (Barker & Berry, 2009). In addition, inappropriate relationship-related (i.e., attachment) behaviors during reunion are associated with parental deployment characteristics. Barker and Berry (2009) found a positive correlation between inappropriate attachment behaviors, such as not wanting the deployed parent to leave the room, and length/number of parental deployments and parental stress; according to reports by parents of young Army children (under the age of four years), children's intense attachment behaviors increased as parental deployment length and number increased, and as parental stress increased.

Based on a review of the literature, Palmer (2008) argues that family functioning is particularly important for military children, and that parent-child interactions and relationships serve as a mechanism by which military risk and resilience factors impact children. For example, stress during a parental deployment may lead to a decrease in caregiver-child relationship



quality, which may result in a child's increased externalizing behavior problems. In this way, parent-child functioning may be associated with all child outcomes. Treatment implications derived from the proposed pathway include providing additional support from the military during times of increased stress to reduce parental stress, as well as efforts to ameliorate the potentially negative parent-child interactions through psycho-education, parenting classes, and support groups for parents. Although this theory has not been tested, it suggests that the key to improving child outcomes is improving parent-child relationships and family functioning.

Moderating factor: Parent well-being

An important consideration in family functioning is the well-being of the caregiver; poorer caregiver mental health was associated with more difficulty in family interactions among military families (Chandra, Lara-Cinisomo, et al., 2010). In fact, caregivers with a deployed Army spouse reported more general stress compared to normed data (Flake, et al., 2009). Separation may be the greatest source of distress for military spouses, and may arise from child care issues, increased household responsibilities, boundary negotiation, and difficulties maintaining relationships during deployment (Drummet, et al., 2003).

With regard to parenting difficulties during deployment, the stresses associated with deployment, such as lack of communication between parents and the challenges of parenting alone, may result in mental health issues for the caregiver. These mental health challenges may also translate into compromised parenting and additional struggles for children. In fact, caregiver stress has been linked to poorer psychosocial outcomes and more family difficulties in children (Barker & Berry, 2009; Chandra, Lara-Cinisomo, et al., 2010; Flake, et al., 2009).



Despite the challenges they face when a spouse deploys, many caregivers appear to be resilient during deployment. In a sample of Navy children Morris and Age (2009) found that caregivers' support of children was relatively equal, regardless of parental deployment status. In addition, higher levels of parental support was associated with more positive child outcomes (Morris & Age, 2009). Although not inclusive of all branches, these findings suggest that parental support is an important factor for child well-being.

Qualitative Findings: Other family problems

During deployment all youth experience the absence of a parent. This loss may result in considerable changes in the family such as family members taking on additional chores, or even relocating to be near extended family. When asked about changes that they have had to make during deployment 71% of children and adolescents said that the biggest change they experienced was an increase in responsibility around the house. These responsibilities ranged from helping with chores to looking after younger siblings (Houston, et al., 2009; Mmari, et al., 2009). For example, one adolescent reported "I know in my house, my mom started making me do all the laundry and I had to help her do the dishes, like way more than I normally had to (Mmari, et al., 2009)

In addition to changes in roles and responsibilities, some qualitative research suggests that the emotional climate of the family becomes more intense during parental deployment. As one adolescent reported "[It's hard] not having a dad to depend on for like 2 years, and now my mom is always upset when we talk about him" (Huebner, et al., 2007).



When deployment ends and the Service member returns home, families are faced with reorganization as the deployed parent reintegrates back into the family (Huebner, et al., 2007). Many parents and adolescents reported that the deployed parent's return was more stressful than the initial departure (Mmari, et al., 2009). Some adolescents experience stress with trying to get to know their parent again. One adolescent said “ When your parents are gone for so long and then they'll leave and you'll be like 12 and then they come back and you're like 14 and you have changed so much and you don't really know them because you kind of forget little things about them and they don't know you because you have grown up” (Mmari, et al., 2009).

Many parents and adolescents also have to renegotiate family roles upon return of a Service member. During deployment the caregiver may assume the responsibilities of two parents or one or more adolescents in the family may pick up some of the responsibilities of the deployed parent. When the deployed parent returns home, some conflict may ensue between parents and/or between the deployed parent and the child. As one parent noted of her 42 month old son “He seemed nervous and shy at first – took about a week to ‘warm-up’ to [deployed parent] again....[deployed parent] wasn't like part of the family anymore – took some time to readjust” (Barker & Berry, 2009).

Limitations

- Because of the paucity of branch-specific research and research inclusive of all branches, clear conclusions cannot be made regarding the differences or similarities of the impact of parental deployment on children across Service branches. In addition, the results presented here may not generalize to all service branches



- Selected or participating families may differ from non-participating families in ways that are not measured but affect the outcome variables. For example, parents who choose to participate in a study may have children who are functioning better or worse than those parents who choose not to participate.
- In studies that compared children with deployed parents to other children (either children with nondeployed military parents or civilian parents) matching techniques were not used to ensure group similarity. Without matching groups on important demographic variables, we cannot be certain that the groups do not have critical pre-existing differences that influence the results
- No studies include a pre-deployment assessment. Without a pre-test, there is no clear evidence of the direction of associations observed.
- No studies compared children's scores over time. Longitudinal data would allow researchers to understand the direction of associations between parental deployment and child outcomes, and help rule out alternative explanations for findings.
- This area of research is quite limited in the number of studies available to review.

Peer Problems

In the review of the literature there were two quantitative and one qualitative study identified that dealt with child peer problems, including children's ability to interact with others and peer relationship quality. One quantitative study compared peer problems between children with a deployed parent and children with a nondeployed parent. The other quantitative study did not make this comparison but instead provided information about variables associated with peer



problems during parental deployment. All three studies used reports from caregivers and children, and had sample sizes ranging from 86 to over 1,500.

Quantitative Findings

Chandra and colleagues (2010), using interviews with Army, Navy, Air Force, and Marine families, found that deployment status (e.g. currently deployed) was not associated with child social functioning (e.g. ability to interact with peers; Chandra, Lara-Cinisomo, et al., 2010). However, additional research is necessary before clear conclusions can be drawn regarding differences between children with deployed and nondeployed parents in terms of social functioning.

Moderating factor: Parent well-being

Based on the findings of the one study that has examined the impact of deployment on peer problems, deployment does not appear to impact children's peer functioning. However, it is important that studies of the impact of parental deployment on peer problems not examine deployment in isolation. For example, factors such as the child's positive feelings toward his/her caregivers, and family cohesion may act as buffers against poor peer relationships (Finkel, et al., 2003). Similarly, poor caregiver mental health appears to be associated with more peer difficulties among children over age eleven years (Chandra, Lara-Cinisomo, et al., 2010). Thus, as with other child outcomes, parent well-being is a critical factor in the link between parental deployment and experienced peer problems.



Qualitative Findings

Adolescents experience a range of responses when confiding in friends. Some report that friends are a meaningful source of support while others report that friends do not or cannot understand what they are going through (Mmari, et al., 2009). Often adolescents with a deployed parent can seek support from other adolescents who have experienced deployment. Children with a deployed parent seem to be more comfortable discussing problems they are having with other military children rather than civilian children or school counselors. For example, one adolescent reported “It’s easier to talk to your friends that are in the military and know what is going on, they feel the same way when their parents are gone, than talking to a guidance counselor, because all they can say is oh yeah I know how you feel, really they don’t understand at all” (Mmari, et al., 2009).

This qualitative study also suggests that military children may be at risk for bullying as many parents and school personnel reported that children with deployed parents are “prime targets” for bullying, particularly among peers who are opposed to the Iraq war (Mmari, et al., 2009). Although an extreme case one parent reported that her son was attacked by another adolescent “It was like this kid was insinuating that [deployed parent] was personally responsible for the war...” (Mmari, et al., 2009). Such social difficulties are challenging for any adolescent, but may have particularly negative impact on youth with a deployed parent. Additional research could provide an opportunity to identify trends of social problems and bullying for children during parental deployment.



Limitations

- Because of the paucity of branch-specific research and research inclusive of all branches, clear conclusions cannot be made regarding the differences or similarities of the impact of parental deployment on children across Service branches. In addition, the results presented here may not generalize to all Service branches
- Selected or participating families may differ from non-participating families in ways that are not measured but affect the outcome variables. For example, parents who choose to participate in a study may have children who are functioning better or worse than those parents who choose not to participate.
- No studies include a pre-deployment assessment. Without a pre-test, there is no clear evidence of the direction of associations observed.
- No studies compared children's scores over time. Longitudinal data would allow researchers to understand the direction of associations between parental deployment and child outcomes, and help rule out alternative explanations for findings.
- This area of research is quite limited in the number of studies available to review.
- The studies to date have treated peer problems in a general way, without considering the nuances of peer relationships (e.g., being popular versus having close, supportive friendships; being neglected by peers versus having enemies).

Physical Health Problems

Only one quantitative study specifically examined adolescent physical health, there were no qualitative studies that examined physical health. In this study, Davis and Treiber (2007)



measured the heart rate, blood pressure, and body mass index (BMI) of 121 Army high school students. The authors found that military adolescents (with both deployed and nondeployed parents in the Army) had higher heart rates than children of civilian parents, which might indicate higher levels of stress for military youth. No differences were found, however, in blood pressure, another indicator of stress. In terms of BMI, adolescents with a deployed Army parent had higher BMIs than both adolescents with a nondeployed parent and civilian adolescents. The increased BMI of youth with deployed parents may be related to poorer diet or less exercise during parental deployment. For example, a caregiver may have less time to transport an adolescent to sports practices or events during parental deployment. Future research can shed light on why adolescents with deployed parents had higher BMIs than those with nondeployed or civilian parents.

Moderating factor: Ethnicity

Although this study did not examine gender, it did evaluate results by ethnicity. White military adolescents had higher blood pressures than other ethnic groups. Among children of civilian parents, non-White adolescents had higher blood pressures than White adolescents. Thus, there appears to be a complex relation between ethnicity, parental deployment, and adolescent blood pressure. More research can explain how ethnicity may buffer or exacerbate the impact of parental deployment on youth.



Limitations

- Although data was collected at multiple timepoints, the analyses did not compare scores over time. Without examining scores over time, the differences found between groups cannot be attributed solely to parental deployment.
- Other variables may be influencing results. For example, higher levels of media exposure or awareness of combat coverage may induce the differences in physical health evidenced in this study.
- More generally, the existence of only one study of the relations between deployment and physical health problems represents an important absence of empirical evidence of this potentially important connection.

Discussion

The current peer reviewed literature indicates that parental deployment is directly associated with more academic problems, higher likelihood of child maltreatment, and increased family functioning problems. For internalizing and externalizing behavior problems, however, other variables moderated the links between parental deployment and child outcomes. For instance, although parental deployment was not directly related to children's internalizing behavior problems, a *lengthier* deployment did predict more problems. In addition, deployment impacted children's externalizing behavior problems differently, depending on the child's age.

In fact, many moderating factors such as gender, child age, ethnicity, and length as well as the number of parental deployments, have been shown to either buffer or exacerbate the association between parental deployment and child outcomes. As such, it is critical to consider



these factors. One such factor that was associated with almost every outcome examined was parent mental health. Across the studies reviewed, decreased parental well-being predicted more child internalizing problems, more externalizing behavior problems, poorer academic adjustment, increased likelihood of child maltreatment, poorer family functioning, and increased peer problems (parent mental health was not assessed in the single study that examined child physical health), particularly among caregivers. Clearly, parent well-being is a vital element in understanding the impact of parental deployment on children.



Section III.
Conclusions



Conclusions

This report represents the most comprehensive review of the research literature conducted to date on the impact of parental military deployment on child and caregiver well-being. It has become apparent during this process that only a small corpus of research exists on the topic. Now more than ever, more children and parents are impacted by military deployment and additional research is needed to fully understand the mechanisms through which deployment impacts these families. Nonetheless, concrete conclusions can be derived from the existing literature regarding the impact of parental deployment on children. These conclusions are outlined below.

The Impact of Parental Deployment on Children

Before delving into the conclusions drawn about the impact of parental deployment on children, it is important to note that these conclusions are based on a small body of research and represents the current and limited state of this literature. Based on this limited body of research, it is evident from both the quantitative and qualitative literature that deployment imposes a unique stress on both children and caregivers. Deployment typically results in increased stress and anxiety for both parents and children. Furthermore, both deployment and reintegration disrupt the role structure of families and can be stressful to family members. What is less clear however is how this stress impacts the functioning of children and caregivers, as conflicting evidence permeates this literature. One reason for this conflicting evidence may reside in the consideration of moderating factors of child and parent well-being. The impact of deployment appears to be greater for different groups of individuals. As a whole, military families appear



resilient against the stresses that are imposed by deployment. However, for some groups of families deployment has a greater impact. One consistent finding across this body of literature is parent mental health has considerable impact on child outcomes. The research reviewed in this report indicates that the stresses associated with military deployment may serve to undermine parent mental health thereby increase the likelihood of impairing child well-being. Particular attention should be paid in prevention and intervention strategies to the mental health of the parents, particularly caregivers, and how parental deployment may affect parent and caregiver mental health.

A second consistent factor that may moderate the relation between deployment stress and child outcomes is the age of the child. For example, younger children may be particularly susceptible to maltreatment during deployment while older children are less at risk. At the same time, older children are more likely to experience academic problems than younger children. Adolescents, relative to children of younger ages, may be buffered from the impact of deployment, though the source of this protection is unknown. The research reviewed in this report indicates that the impact of deployment is age specific and the impact of age differs depending on the type of outcome analyzed.



Appendix A: Literature Review Method

Selection and Inclusion of Studies

Articles were considered for this review if its main purpose was to quantitatively and/or qualitatively examine the impact of military deployment on children and youth or to review the current research literature on the impact of parental deployment on children. For this review, we considered only articles that examined the emotional, behavioral, social, or physical functioning of military children with parents involved in military operations after 2001. We identified relevant literature in a number of ways. First, we performed keyword searches of several electronic databases, including PsychINFO (a widely used database of the psychology literature), Google-scholar (a less systematic but broader database to identify literature outside of psychology), and MEDLINE (the National Library of Medicine’s premier bibliographic database). Second, a number of journals (see Table A.1 for a list of the journals) were searched for potentially relevant studies. Third, the following websites were searched for articles on the impact of parental military deployment on children and youth: American School Counselor Association, Proceedings of the Annual Convention of the American Psychological Association, Army Research Institute for the Behavioral and Social Sciences, American Psychological Association, and Operation Military Kids. Fourth, we examined several previous studies and literature reviews of the impact of deployment on children. Fifth, we located relevant works cited in the empirical articles and literature reviews identified via the first three strategies. Finally, some articles were identified by our Department of Defense (DoD) point-of-contact. Although a wide variety of materials (e.g., empirical articles, practical guides, unpublished literature



reviews, PowerPoint briefings) examining the impact of parental deployment on children were located, only those that were peer-reviewed quantitative or qualitative studies or literature reviews were included in this report.

Coding of Studies

Study Characteristics

The following study characteristics were coded for all articles: author(s); publication year, citation information (e.g., journal name); publication format (e.g., journal article, book chapter); study purpose; and key study findings. For the empirical articles (i.e. quantitative and qualitative studies, and mixed methods), we also coded the general research design, the source/informant providing data (e.g., caregiver, child, teacher), primary outcomes, dates of data collection, and limitations of the study. When considering the limitations of the empirical studies, we focused on three issues: (1) threats to internal validity, which are weaknesses of the methodology that leave open the possibility that the association between variables does not result from a true causal relationship (i.e., something else may be causing the apparent association); (2) strength of external validity, that is whether the findings generalize to different types of children (e.g., older children and younger children, or children of Army-affiliated Service members and children of Navy-affiliated Service members); and (3) threats to construct validity, that is elements of the methodology that may limit the study's ability to assess what it claims to be assessing (e.g., inappropriate or inaccurate measures).



Participant Characteristics

For the quantitative, qualitative, and mixed methods studies, a number of participant characteristics were coded, including: sample size; demographic information about the children (e.g., age range and mean, gender, ethnicity); demographic information about the parents (e.g., gender of the parent of deployed parent, education, socioeconomic status); and family type (e.g., dual military families, single-parent families).

Military Characteristics

For the empirical studies, six military characteristics of the samples of Service members were coded: percentage of enlisted Service members; percentage of Service members in the Active Component (versus those in the Reserve Component); deployment number, stage, and length; average months post-deployment; service branch; and operation(s).

Article Characteristics

Study Characteristics

We reviewed fourteen quantitative studies, eight literature reviews, five qualitative studies, and one mixed methods study (i.e. includes both quantitative and qualitative analyses) published from 2002 to 2010, in a variety of sources, including, for example, the journals *Military Medicine*, *Family Relations*, and *Journal of Adolescent Health*.

There were six primary outcome variables discussed in the 28 articles. Thirteen of the articles (seven quantitative studies, two literature reviews, and three qualitative studies, and the mixed methods study) examined internalizing problems (e.g., depression, anxiety), ten articles (six quantitative studies, three qualitative studies, and the mixed methods study) measured



externalizing behavior problems (e.g., aggression, conduct problems), five articles (three quantitative and two qualitative) discussed children's academic adjustment (e.g., grades and test scores), 20 articles (nine quantitative studies, seven literature reviews, three qualitative studies, and the mixed methods study) focused on family problems such as family violence and family functioning, three studies (two quantitative and one qualitative) assessed children's social difficulties with peers, and one quantitative study examined adolescents' physical health.

Quantitative Studies

When considering the research design of the quantitative studies, six of the articles used only a single group (i.e., no comparison groups), five made comparisons to non-matched, nondeployed military comparison groups, two used non-matched civilian comparison groups, and one study used both military and civilian comparison groups. In addition, three articles made comparisons to standardized norms.

Qualitative Studies

Five qualitative articles were included in the review. The studies were published between 2007 and 2010. In terms of research design, three of the studies conducted focus groups, one used interviews, and one was based on case study illustrations.

Participant Characteristics

Quantitative Studies

Sample sizes for the quantitative studies varied widely, ranging from a small study with 65 participants to a sample including over 400,000 Active Component Army Service members. The quantitative studies also varied in terms of the age ranges of the children in their samples.



Some studies had narrowly specified samples (e.g., children aged one and a half to five years), and others had broad age ranges (e.g., ages 0 to 17 years). Most of the samples had roughly equal numbers of boys and girls (percentage of boys ranged from 49 to 55). In terms of parent ethnicity, the majority of samples were largely White, with percentages of White parents ranging from 37 to 75.6, and an average of approximately 60% White parents across the empirical studies that included racial or ethnic information. This is close to the percentage of White Service members across all branches and components (67%; Government Accountability Office, 2005).

Qualitative Studies

For the qualitative studies, samples ranged from case studies to 107 participants. Children's ages ranged from six to eighteen, with two studies focused on any school aged child (generally ages five to eighteen years), and two studies focused on high school aged children (generally, ages 12 to 18 years). The gender composition of the samples varied widely across studies, ranging from 39% boys to 63% boys.

Military Characteristics

Quantitative Studies

In the samples where the Service member's gender was reported, the serving parents were largely fathers (86 to 100% across studies). Across the samples, seven identified the component composition of the samples; six samples were comprised of all Active Component Service members, and one study was comprised of 63% Active Component Service members. These samples do not properly represent the composition of deployed Service members; as of



2007, 72% of deployed Service members were in the Active Component (Department of Defense Public Affairs Office, 2007). Of the empirical studies that specified the Service branch composition of the sample, six studies included only Army soldiers, one study included only Marines, one study included only Service members in the Navy, and two studies included a variety of branches. In terms of the operations in which parents participated, one study exclusively examined OIF, two studies focused explicitly on both OEF and OIF, four studies collected data exclusively post-2001 and so are considered primarily OEF and/or OIF, four studies collected data before 2001, but continued until as recently as 2004, and three studies did not specify when data were collected.

Qualitative Studies

Two of the qualitative studies used samples where all deployed parents were male; one study had some female deployed parents, and two studies did not specify the gender composition of the samples. In terms of parents' component, three articles did not specify component composition of their samples, one had 56% Active Component parents, and the fifth had entirely Reserve Component Service members. Two of the five studies had samples comprised entirely of Army families, two had samples that included the Army, Navy, Air Force, and Marines, and one study did not specify.



Table A.1. *Journals Searched for this Literature Reviewed*

Acta Paedopsychiatry, Airmen, Ambulatory Pediatrics, American Journal of Community Psychology, American Journal of Epidemiology, American Journal of Orthopsychiatry, American Journal of Psychiatry, Anxiety, Stress, and Coping, Archives of Pediatrics Adolescent Medicine, Armed Forces & Society, Australian Journal of Family Therapy, British Medical Journal, Child Abuse Review, Child and Adolescent Social Work Journal, Child Development, Communication Monographs, Croatian Medical Journal, Current Opinion in Psychiatry, Developmental Psychology, Dissertation Abstracts International, Dissertation Abstracts Online, Division of Neuropsychiatry, Economics of Education Review, Education Digest: Essential Readings Condensed for Quick Review, Emergency Nurse, Environment and Behavior, Exchange Press, Exchange: The Early Childhood Leaders' Magazine, Family & Community Health, Family Relations, Federal Practitioner, Harvard Educational Review, Herald Bulletin, Industrial and Labor Relations Review, Journal of the American Medical Association, Journal of Consulting and Clinical Psychology, Journal for Specialists in Pediatric Nursing, Journal of Abnormal and Social Psychology, Journal of Adolescence, Journal of Adolescent Health, Journal of American Academy of Child and Adolescent Psychiatry, Journal of Anxiety Disorders, Journal of Applied Developmental Psychology, Journal of Applied Social Psychology, Journal of Clinical Child Psychology, Journal of Clinical Psychiatry, Journal of Consulting and Clinical Psychology, Journal of Developmental and Behavioral Pediatrics, Journal of Family & Consumer Science, Journal of Genetic Psychology, Journal of Human Behavior in the Social Environment, Journal of Labor Economics, Journal of Nervous and Mental Disease, Journal of Pediatrics, Journal of Psychology in Africa, Journal of Social and Clinical Psychology, Journal of the American Academy of Child & Adolescent Psychiatry, Journal of the American Academy of Child Psychiatry, Journal of the American Academy of Child Psychology, Journal of the Army Medical Department, Journal of Traumatic Stress, Military Medicine, Military Psychology, NASN School Nurse, Pediatric Nursing, Pediatrics, Pediatrics in Review, Pédiatrie Annals, Psychiatric Annals, Psychiatric Quarterly, Psychological Monographs, Psychology Today, Psychology, Psychotherapy, Quality of Life Research, Research in Nursing & Health, The Family Coordinator, The Journal of Nervous and Mental Disease, The Journal of School Nursing, The Journal of Specialists in Group Work, The New England Journal of Medicine, US Navy Medicine, YC Young Children, and Youth & Society.



Appendix B: Current Funding Opportunities for Research

A systematic process was put in place, to identify recent requests for proposals/ applications (within the last three years). The team of research assistants employed the same steps with every search. The search involved using the same keyword sequences (see Table B.1 below) in all the sites and universities visited. Then the results (web pages found; see Table B.2 below) were reviewed to identify current funding or recent requests. The keyword sequences were utilized for each site searched.

In addition, for searches within research universities, we employed the search engine on the university's website and also reviewed their respective research links. Often, the research link contained newsletters and highlighted all the research that was being conducted by the university.

A total of 47 sites were searched with an initial 587 potential web pages identified. After review, the vast majority of those web pages (99%) did not address the research issue of impact of parental deployment on children. The majority of web pages were focused on military personnel, spouses, and program and services research.

Identified Funding Opportunities

On the next pages are six current funding opportunities or projects for research that could examine the impact of deployment. However, it is currently not clear whether these funding opportunities will award grants focused primarily on the impact of parental deployment on children or other issues (impact of deployment on non-deployed spouse mental health). There is some information that is not known because it was not available on the web page. Attempts have



been made to contact the principal investigators or program officers, but as of today none have responded to email or phone calls.

1. *Organization Funding:* NIAAA, NIDA, NCI, VA Clinical Science Research and Development Service
Funding Amount: \$7 Million
Person/Organization Receiving Funding: Not Known Yet
Aims of Funding: To see the levels of substance use and abuse among military personnel and their families.
Date Received: July 2010

2. *Organization Funding:* National Family Military Association
Funding Amount: Unknown
Person/Organization Receiving Funding: RAND
Aims of Funding: To find out what happens at home and how are military children affected by the separation when a parent deploys.
Date Received: Children followed Summer 2008-2009

3. *Organization Funding:* Administration for Children and Families
Funding Amount: \$180,000
Person/Organization Receiving Funding: Unknown
Aims of Funding: Projects designed to support the childcare needs of military families. Not likely to be a research project attached but could include an evaluation.
Date Received: Application due 7/23/2010

4. *Organization Funding:* Federal Organization (SAMHSA)
Funding Amount: \$1.8 Million



Person/Organization Receiving Funding: USC School of Social Work (Contacted PI; not returned phone call or email)

Aims of Funding: To help prevent the mental health issues affecting veterans and their families.

Date Received: Spring 2010

5. *Organization Funding:* SAMHSA

Funding Amount: \$5.2 Million since 2002

Person/Organization Receiving Funding: USC School of Social Work

Aims of Funding: Continual study of mental health and the military families

Date Received: Since 2002 they have been received funding.

6. *Organization Funding:* Unknown (Contacted PI by phone and emailed)

Funding Amount: Unknown

Person/Organization Receiving Funding: Dr. David Bishai, Associate Professor Johns Hopkins Bloomberg School of Public Health

Aims of Funding: To perform a longitudinal study of military families and active military members.

Date Received: Unknown



Table B.1. *The Sequence of Keywords Systematically Searched*

1. Military grants	11. Army grants
2. Military families research	12. Army approved projects
3. Military funding	13. Army funding
4. Military funded projects	14. Navy/Marine funded
5. Military approved projects	15. Navy/Marine grants
6. Deployment research	16. Navy/Marine approved projects
7. Children and deployment	17. Navy/Marine funding
8. Deployment effects on family	18. Air Force funded projects
9. Military and Press releases (on university sites)	19. Air Force grants
10. Army funded projects	20. Air Force approved project
	21. Air Force funding



Table B.2. *Websites Included in the Systematic Search*

The Ahern Family Charitable Foundation
Army Research Office
Bing
Fisher House
Google
Grants.gov
HHS
Library of Congress
Military Child Education Coalition
Military Family Research Institute
Military Home front
National Military Family Association
NIH (e.g., NIMH, NICHD; NIDA)
NIH-Research portfolio online reporting tools
Office of Naval Research
Penn State Funding Services
RAND
Research Tier 1 Institutions (e.g., Stanford, MI, PSU, USC)
TRICARE
USO
University of Washington Funding Services for Health Researchers
Waymart
Websites for Heroes



Appendix C: Supplemental Literature

In our review of the quantitative and qualitative literature there were three articles that were not peer reviewed published articles and were thus deemed inappropriate to include in the larger literature review. However, these three unpublished research reports provide relevant information about the impact of deployment on children and are thus included here in an appendix for reference. It should be emphasized that these reports have not been subject to the peer review process associated with publication in an academic journal, however the information provided in these reports is useful for understanding how parental deployment impacts child outcomes

These three reports consist of one quantitative study and two qualitative studies. The quantitative study describes a pilot study of parents and children who attended Operation Purple Camp prepared for the National Military Family Association. The two qualitative studies describe the results of focus group interviews with adolescents from Operation Military Kids and other camps sponsored by the National Military Family Association. A description of each of these reports is provided below.

Quantitative

Chandra, A., Burns, R. M., Tanielian, T., Jaycox, L. H. & Scott, M. M. (2008). Understanding the impact of deployment on children and families. Findings from a pilot study of Operation Purple Camp participants. *RAND Working Paper*. Santa Monica, CA: RAND.



- Sample size (N) = 192; 51.4% boys; 83.3% Caucasian, 11.5% Hispanic, 9% African American, 5.1% Other, 2.6% Asian; age range 7-14 years (Mean (Achenbach) = 10.4 years)
- There were no differences between children with a deployed parent and those with a nondeployed military parent in terms of emotional (anxiety and emotional issues) or behavioral (conduct and hyperactivity) issues.
- Child emotional and behavioral difficulties were higher for children with deployed parents than a normed sample.
- Parents reported that parenting alone and lack of communication with their partners were the biggest deployment-related challenges.
- More Reserve Component caregivers reported more stress about having too many responsibilities, compared to Active Component caregivers. Likewise, more Reserve Component caregivers reported not having enough time to meet responsibilities.
- Overall, there was a trend for caregivers associated with the Reserve Component to have poorer mental health than those associated with the Active Component.
- Reserve Component caregivers generally reported that their children had more skills in interacting with others (pro-social skills) than Active Component caregivers.

Qualitative

Huebner, A. J. & Mancini, J. A. (2005). Adjustments among adolescents in military families when a parent is deployed. Virginia Polytechnic Institute and State University.



- N = 107; 54% male; 61% Caucasian, 17% African American, 7% Hispanic/Latino, 3% Pacific Islander, 1% Native American, 10% biracial; age range 12-18 years.
- Family emotions (anger, depression, tension) tend to be more intense during deployment
- Disagreements or fights with caregivers may be increased during deployment
- Adolescents have to act more grown up when a parent is deployed
- Household responsibilities tend to increase with parental deployment such as caring for younger siblings, more household chores, and elevation to a co-parent
- Deployment results in changes in household routines/rituals
- Grades tend to worsen as a result of lack of concentration and less time to focus on school work due to increased responsibilities at home
- Adolescents often have difficulty with reintegration as a result of changes in household routines and responsibilities

Huebner, A. & Mancini, J. (2010). Resiliency and vulnerability: The deployment experiences of youth and military families. Virginia Polytechnic Institute and State University and The University of Georgia.

- N = 85; 49.4% Male; 73% Caucasian, 11% African American, 2% Hispanic/Latino, 4% Asian, 1% Native American, 8% biracial; age range 11-18 years
- Deployment results in considerable changes in family roles and responsibilities. In some instances adolescents are assigned roles by caregivers in others adolescents assume roles voluntarily



- Sibling relationships may become closer as a result of increased responsibility for caring for siblings and utilizing siblings as confidants
- Some adolescents report that peers are a meaningful source of support, particularly when peers also had experience with deployment. Other adolescents reported being afraid that their peers would not believe them or accuse them of attention-seeking
- Many adolescents reported a decline in grades as a result with problems with concentration
- Several adolescents reported that multiple deployments were easier on the family because, having gone through it before, they knew what to expect



References

- Achenbach, T. (1991). *Manual for the Child Behavior Checklist/4-18 and 1991 profile*.
Burlington, VT: University of Vermont.
- Achenbach, T., & Rescorla, L. (2000). *Manual for the ASEBA preschool forms and profiles*.
Burlington, University of Vermont.
- Barker, L., & Berry, K. (2009). Developmental Issues Impacting Military Families With Young Children During Single and Multiple Deployments. *Military medicine*, 174(10), 1033-1040.
- Chamberlain, H., Stander, V., & Merrill, L. (2003). Research on child abuse in the US armed forces. *Military Medicine*, 168, 257-260.
- Chandra, A., Lara-Cinisomo, S., Jaycox, L., Tanielian, T., Burns, R., Ruder, T., & Han, B. (2010). Children on the homefront: the experience of children from military families. *Pediatrics*, 125(1), 16. doi: 10.1542/peds.2009-1180
- Chandra, A., Martin, L., Hawkins, S., & Richardson, A. (2010). The Impact of Parental Deployment on Child Social and Emotional Functioning: Perspectives of School Staff. *Journal of Adolescent Health*, 46, 218-223.
- Chartrand, M., Frank, D., White, L., & Shope, T. (2008). Effect of parents' wartime deployment on the behavior of young children in military families. *Archives of Pediatrics and Adolescent Medicine*, 162(11), 1009.
- Chartrand, M., & Siegel, B. (2007). At war in Iraq and Afghanistan: Children in US military families. *Ambulatory Pediatrics*, 7(1), 1-2.



- Davis, H., & Treiber, F. (2007). Perceived stress, heart rate, and blood pressure among adolescents with family members deployed in Operation Iraqi Freedom. *Military Medicine*, 172(1), 40-43.
- Department of Defense Public Affairs Office. (2007). Number of members deployed by service component and month/year (based on the Contingency Tracking System).
- Drummet, A., Coleman, M., & Cable, S. (2003). Military Families Under Stress: Implications for Family Life Education. *Family Relations*, 52(3), 279-287. doi: 10.1111/j.1741-3729.2003.00279.x
- Engel, R., Gallagher, L., & Lyle, D. S. (2010). Military deployments and children's academic achievement: Evidence from Department of Defense Education Activity Schools. *Economics of Education Review*, 29(1), 73-82.
- Finkel, L., Kelley, M. L., & Ashby, J. (2003). Geographic mobility, family, and maternal variables as related to the psychosocial adjustment of military children. *Military Medicine*, 168(12), 1019-1024.
- Flake, E., Davis, B., Johnson, P., & Middleton, L. (2009). The psychosocial effects of deployment on military children. *Journal of Developmental & Behavioral Pediatrics*, 30(4), 271. doi: 10.1097/DBP.0b013e3181aac6e4
- Gibbs, D., Martin, S., Kupper, L., & Johnson, R. (2007). Child maltreatment in enlisted soldiers' families during combat-related deployments. *Journal of the American Medical Association*, 298(5), 528.



- Government Accountability Office. (2005). *Military Personnel: Reporting Additional Servicemember Demographics Could Enhance Congressional Oversight* (pp. 22). Washington, D.C.
- Hillenbrand, E. D. (1976). Father Absence in Military Families. *The Family Coordinator*, 25(4), 451-458.
- Hoge, C., Auchterlonie, J., & Milliken, C. (2006). Mental health problems, use of mental health services, and attrition from military service after returning from deployment to Iraq or Afghanistan. *Journal of the American Medical Association*, 295(9), 1023.
- Hoge, C., Castro, C., Messer, S., McGurk, D., Cotting, D., & Koffman, R. (2004). Combat duty in Iraq and Afghanistan, mental health problems, and barriers to care. *The New England Journal of Medicine*, 351(1), 13.
- Hosek, J., Kavanagh, J., & Miller, L. (2006). *How deployments affect service members*: RAND Corporation.
- Houston, J., Pfefferbaum, B., Sherman, M., Melson, A., Jeon-Slaughter, H., Brand, M., & Jarman, Y. (2009). Children of Deployed National Guard Troops: Perceptions of Parental Deployment to Operation Iraqi Freedom. *Psychiatric Annals*, 39(8), 805-811. doi: 10.3928/00485713-20090728-03
- Huebner, A., Mancini, J., Bowen, G., & Orthner, D. (2009). Shadowed by war: Building community capacity to support military families. *Family Relations*, 58(2), 216-228. doi: DOI: 10.1111/j.1741-3729.2008.00548.x



- Huebner, A., Mancini, J., Wilcox, R., Grass, S., & Grass, G. (2007). Parental deployment and youth in military families: Exploring uncertainty and ambiguous loss. *Family Relations*, 56(2), 112-122. doi: 10.1111/j.1741-3729.2007.00445.x
- Jensen, P. S., Martin, D., & Watanabe, H. (1996). Children's response to parental separation during Operation Desert Storm. *Journal of the American Academy of Child and Adolescent Psychiatry*, 35(4), 433-441.
- Kelley, M. L. (1994). Military-induced separation in relation to maternal adjustment and children's behaviors. *Military Psychology*, 6(3), 163-176.
- Lester, P., Peterson, K., Reeves, J., Knauss, L., Glover, D., Mogil, C., . . . Wilt, K. (2010). The long war and parental combat deployment: effects on military children and at-home spouses. *Journal of the American Academy of Child and Adolescent Psychiatry*, 49(4), 310-320.
- Levai, M., Kaplan, S., Ackermann, R., & Hammock, M. (1995). The effect of father absence on the psychiatric hospitalization of Navy children. *Military Medicine*, 160(3), 104-106.
- Lincoln, A., Swift, E., & Shorteno-Fraser, M. (2008). Psychological adjustment and treatment of children and families with parents deployed in military combat. *Journal of Clinical Psychology*, 64(8), 984-992. doi: 10.1002/jclp.20520
- Martin, S., Gibbs, D., Johnson, R., Rentz, E., Clinton-Sherrod, M., & Hardison, J. (2007). Spouse abuse and child abuse by army soldiers. *Journal of Family Violence*, 22(7), 587-595. doi: 10.1007/s10896-007-9110-2



- McCarroll, J., Fan, Z., Newby, J., & Ursano, R. (2008). Trends in US Army child maltreatment reports: 1990-2004. *Child Abuse Review, 17*(2), 108-118. doi: 10.1002/car.986
- McFarlane, A. (2009). Military deployment: the impact on children and family adjustment and the need for care. *Current Opinion in Psychiatry, 22*(4), 369. doi: 10.1097/YCO.0b013e32832c9064
- Mmari, K., Roche, K., Sudhinaraset, M., & Blum, R. (2009). When a parent goes off to war: Exploring the issues faced by adolescents and their families. *Youth & Society, 40*(4), 455-475. doi: 10.1177/0044118X08327873
- Morris, A., & Age, T. (2009). Adjustment among youth in military families: The protective roles of effortful control and maternal social support. *Journal of Applied Developmental Psychology, 30*(6), 695-707. doi: 10.1016/j.appdev.2009.01.002
- Palmer, C. (2008). A theory of risk and resilience factors in military families. *Military Psychology, 20*(3), 205-217. doi: 10.1080/08995600802118858
- Rentz, E., Marshall, S., Loomis, D., Casteel, C., Martin, S., & Gibbs, D. (2007). Effect of deployment on the occurrence of child maltreatment in military and nonmilitary families. *American Journal of Epidemiology, 165*(10), 1199-1206. doi: 10.1093/aje/kwm008
- Rentz, E., Marshall, S., Martin, S., Gibbs, D., Casteel, C., & Loomis, D. (2008). Occurrence of maltreatment in active duty military and nonmilitary families in the State of Texas. *Military Medicine, 173*(6), 515-522.



- Rentz, E., Martin, S., Gibbs, D., Clinton-Sherrod, M., Hardison, J., & Marshall, S. (2006). Family violence in the military: a review of the literature. *Trauma, Violence, & Abuse*, 7(2), 93. doi: 10.1177/1524838005285916
- Schaeffer, C., Alexander, P., Bethke, K., & Kretz, L. (2005). Predictors of child abuse potential among military parents: Comparing mothers and fathers. *Journal of Family Violence*, 20(2), 123-129. doi: 10.1007/s10896-005-3175-6
- Sheppard, S. C., Malatras, J. W., & Israel, A. C. (2010). The impact of deployment on U.S. military families. [Journal Article]. *American Psychologist*, 65, 599-609. doi: 10.1037/a0020332
- Tanielian, T., & Jaycox, L. (2008). *Invisible wounds of war: Psychological and cognitive injuries, their consequences, and services to assist recovery*: Rand Corp.
- Yeatman, G. W. (1981). Parental separation and the military child. *Military Medicine*, 146, 320-322.

